A REVISION OF THE AUSTRALIAN HELIODINIDAE (LEPIDOPTERA)

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This family is a modern conception, which we owe to Meyrick. I cannot do better than to commence by quoting his description from the Genera Insectorum

(1914).

"Head smooth; occili usually present; tongue usually developed. Antennae one-half to over 1, often strongly ciliated in male or fringed with long rough projecting scales, basal joint without peeten. Labial palpi slender with appressed scales, pointed, usually long, recurved, often diverging, sometimes short, porrected. Maxillary palpi short or usually very short, filiform; scaled, appressed to tongue, or often obsolete. Posterior tibiae hairy, bristly, or smooth, with more or less developed whorls of bristles or scales at origin of spurs, tarsi always with more or less developed bristles at apices of joints; in repose habitually erected over back or projecting laterally (in Vanicela appressed to abdomen without touching ground). Forewings narrow or very narrow, often widest near base, costa usually rather strongly arched towards apex, tornus obsolete; 1b fureate or simple, 2 from towards angle, 7 and 8 separate or stalked, 7 to termen or costa, 11 from about middle. Hindwings 1 or under 1, from narrowly elongate-ovate to lanceolate or linear, cilia 1 to 6; 3-7 normally separate, 3 and 4 seldom stalked, 6 and 7 sometimes stalked. Larvae with prolegs on segments 7-10 and 13, feeding externally or mining in leaves, stems, galls, or fruits, or on scale insects (Coccidae)."

He adds that the family "is specially characterised by the singular habit of erecting the posterior legs in repose, for which, as in the case of the peculiar attitude of the Gracilariadae, it is difficult to imagine any adequate explanation; associated with this habit is the invariable presence of apical bristles (sometimes very short) on the joints of the posterior tarsi, often more conspicuously developed

on the tibiae also."

In the Genera Insectorum Meyrick recorded 41 genera and 227 species, but in his revised Handbook of British Lepidoptera (1927) he states that the number had risen to about 70 genera and 350 species. Since then many have been described in his Exotic Microlepidoptera, and there is no doubt many more will be discovered. The family is mainly tropical, but is well represented in Australia by 22 genera and 118 species.

	KEY TO GENERA		
1	Hindwings linear-lanceolate or linear		2
	Hindwings more broadly lanccolate or narrowly clongate-ovate		13
2	Forewings smooth		3
	Forewings with tufts of raised scales	Trychnopepla	
3	Palpi short, drooping	Actinoseclis	
	Palpi long, curved, ascending		4
4	Antennae with basal segment dilated to form an eyecap		5
	Antennac without eyecap		7
5	Anterior tiblae and tarsi much thickened with smooth scales	V anicela	
	Anterior tibiae and tarsi not dilated	Q 11 1	6
6	Antennac in male simple	Calicotis	
_	Antennae in male with long ciliations	Hieromantis	
7	Tongue with long hairs on base	Idioglossa	0
	Tongue without basal hairs	77	8
8	Antennac much longer than forewings	Zaratha	0
_	Antennac not longer than forewings	r.,,	9
9	Antennac nearly as long as forewings	Ethirastis	10
10	Antennae not exceeding four-fifths	T	10
10	Forewings with 6 and 7 out of 8	Isorrhow	11
	Forewings with 6 separate		11

12 13	Hindwings with 4 absent, male antennae simple Hindwings with 4 present, male antennae eiliated Antennae of male shortly or minutely ciliated Antennae of male with very long eilia towards base Palpi short, drooping Palpi moderate or long, eurved, ascending	Pachyrhabda Aeoloscelis Stathmopoda Heliodinides	12
14	Forewings smooth	C	15
15	Forewings with tufts of raised seales	Coracistis	16
15	Palpi very long, much exceeding vertex Palpi moderate, not exceeding vertex		18
16	Antennae with a ridge of raised scales on dorsum		17
10	Antennae without dorsal ridge	Lissocarena	
17	Hindwings with 6 and 7 connate or stalked	Pseudaegeria	
	Hindwings with 6 and 7 separate, parallel	Snellenia	
18	Tongue absent	Aenicteria	
	Tongue present		19
19	Forewings with 7 absent		20
	Forewings with 7 present		21
20	Antennae less than one-half	Agiton	
	Antennae four-fifths	Molybdurga	
21	Forewings with 7 absent	Eretmocera	
	Forewings with 7 and 8 stalked	Dolophrosyne	

1 Gen. Actinoscelis

Mcyr., Exot. Micro., i, p. 24.

Tongue rudimentary. Palpi short, slender, drooping. Antennae in male ciliated. Posterior tibiae and tarsi with whorls of very long bristles; inner median spurs ending in whorls of short bristles. Forewings very narrow. Hindwings linear. Type, A. irina Meyr., from India. Only two species have been described.

1 A. astricta Turn., P.R.S.Vict., 1923, p. 80. (Qld.: Caloundra.)

2 Gen. Idioglossa

Wals., Tr. E. S., 1881, p. 273.

Tongue with long hair-scales on base. Palpi long, recurved, diverging. Antennae in male simple with a deep notch near base covered by a projection beneath. Forewings with 6 and 7 out of 8. Hindwings linear-lanceolate; 4 present. Type, *I. miraculosa* Frey, from North America. Two species are recorded from India and one from Africa.

According to Meyrick the larvae feed in a silken tube on the underside of

grass leaves. Pupae within the tube.

2 I. metallochrysa Turn., P.R.S.Q., 1917, p. 84. (Cairns, Innisfail, Eungella, Nambour, Mount Tamborine, Macpherson Range 2,000 ft.)

3 Gen. ZARATHA

Włk., xxix, p. 789; Meyr., Exot. Micro., i, p. 335.

Tongue present. Palpi very long, slender, recurved, ascending. Antennae much longer than forewings; in male simple. Posterior tibiae with long hairs on dorsum; tarsi with very short or minute whorls of bristles. Forewings with 7 and 8 stalked. Hindwings linear-lanceolate.; 4 present. Type, Z. pterodactylella Wlk. from South America.

3 Z. trisecta Meyr., Exot. Micro., i, p. 335. (Darwin, Cairns.)

4 Z. crotolitha Meyr., Exot. Micro., i, p. 336. (Darwin, Cairns.)

4 Gen. Ethirastis

Meyr., Exot. Micro., ii, p. 462.

Tongue present. Palpi very long, slender, recurved, ascending. Antennae nearly as long as forewings; in male ciliated. Posterior tibiae with long hairs on dorsum and with apical whorls of bristles; tarsi with minute whorls of scales. Forewings with 7 and 8 stalked. Hindwings linear-lanceolate; 4 present. Type, E. sideraula Meyr. Monotypic.

5 E. sideraula Meyr., Exot. Micro., i, p. 315. (Cairns.)

5 Gen. VANICELA

Wlk., xxx, p. 1,039; Meyr., P.L.S.N.S.W., 1897, p. 314.

Tongue present. Palpi long, eurved, diverging, slightly thickened with appressed scales. Antennae with basal segment dilated to form an eyeeap; in male with long eiliations. Anterior tibiae and tarsi thiekened with appressed seales. Posterior tibiae with rough bristly hairs on dorsum. Forewings with 7 and 8 separate. Hindwings linear-laneeolate; 4 present. Type, V. disjunctella Wlk., from New Zealand. Four species.

6 V. xenadelpha Meyr., ibid., 1897, p. 315. Gen. Inseet., pl. i, fig. 7. (Yeppoon, Bundaberg, Noosa, Brisbane, Stradbroke Island, Mount Tamborine, Rose-

wood, Toowoomba, Lismore, Sydney.)

7 V. dentigera Meyr., Exot. Miero., i, p. 81. (Herberton.)

8 V. tricolona Meyr., ibid., i, p. 81. (Cairns.)

6 Gen. HIEROMANTIS

Meyr., P.L.S.N.S.W., 1897, p. 315.

Tongue present. Palpi long, recurved, diverging. Antennae with basal segment expanded to form an eyecap; in male with long ciliations. Forewings with 7 and 8 stalked. Hindwings linear-lanceolate; 4 present. Type, H. ephodophora Meyr. There are four Indian species and three from Fiji.

9 H. ephodophora Meyr., ibid., 1897, p. 315. (Cairns, Cardwell, Brisbane,

Esk, Tweed Hds., Warwiek, Sydney.)

10 H. albata Meyr., Exot., Micro., i, p. 94. (Dunk Island, Stradbroke Island. Also from New Guinea.)

7 Gen. Calicotis

Meyr., Tr. N.Z. Inst., 1889, p. 170; P.L.S.N.S.W., 1897, p. 313.

Tongue present. Palpi long, recurved, diverging. Antennae with basal segment dilated and hollowed to form an eyecap; in male simple. Forewings with 7 and 8 stalked. Hindwings linear-laneeolate; 4 absent. Type, C. crucifera Meyr. Besides the Australian species two have been described from Fiji, and one from the Seyehelles.

Larvae feeding in galleries of loose refuse among the sporangia of ferns.

11 C. microgalopsis Low., Trans. Roy. Soc. S. Aust., 1904, p. 171. (Cairns, Maekay.)

2 C. sialota Turn., P.R.S.Q., 1917, p. 87. (Nambour, Brisbane, Stradbroke

Island, Mount Tamborine, Tweed Hds., Toowoomba.)

C. crucifera Meyr., Trans. N.Z. Inst., 1888, p. 170; P.L.S.N.S.W., 1897, p. 313. Gen. Inseet., pl. i, fig. 5. (Brisbane, Mount Tamborine, Maepherson Range 2,500-3,000 ft., Bunya Mountains 3,500 ft., Sydney. Also from New Zealand.)

14 C. triploesta Turn., P.R.S.Vict., 1923, p. 78. (Brisbane.)

8 Gen. Pachyrhabda

Meyr., P.L.S.N.S.W., 1897, p. 312.

Tongue present. Palpi long, recurved, divergent. Antennae in male simple. Forewings with 7 and 8 separate or stalked. Hindwings linear-lanceolate; 4 absent. Type, *P. steropodes* Meyr. The number of described species is now 22, of which four are from Ceylon and India, two from Africa, twelve from Australia, one from New Zealand, three from Fiji, and one from the Seychelles. One of the Australian species is recorded also from India, Ceylon and Kermadee Island, and another from Ceylon. This, however, does not give a correct idea of its real distribution, for there can be little doubt that the genus is of Indo-Malayan origin, and will be found most plentiful in that region. With only two exceptions the Australian species are confined to the coast of Queensland.

15 Pachyrhabda punctifera n. sp.

punctiferus, spotted.

&, 10 mm. Head, palpi, antennae, and thorax grey-whitish. (Abdomen missing.) Legs white; posterior pair with fuscous rings on apices of tibiae and on tarsi. Forewings moderate, apex pointed; 7 and 8 separate; grey-whitish; costal edge fuscous towards base; fuscous dots on fold at one-eighth and onefourth, a third subcostal at two-fifths, a fourth on costa at two-thirds, and a fifth beneath it; cilia grey-whitish, on apex fuscous. Hindwings onc-half; grey; cilia 4, grcy. Queensland: Bundaberg in August; one specimen.

16 Pachyrhabda campylosticha n. sp.

καμπυλοστιχος, with zig-zag lines.

- &, 8 mm. Head fuscous; face glossy ochreous-whitish. Palpi fuscous, inner surface ochreous-whitish. Antennae grey. Thorax fuscous. Abdomen fuscous, towards base brassy. Legs ochreous-whitish; anterior pair fuscous (posterior pair missing). Forewings narrow, apex pointed; pale yellow with blackish markings; a costal streak from base to three fourths; two closely appressed longitudinal lines on middle of fold; two zig-zag fasciae, broadest on costa, slender in middle, composed of coalesced longitudinal lines; first from mid-costa to before tornus; second from three-fourths costa to termen; an apical dot; cilia grey, on apex blackish. Hindwings over one-half; fuscous with brassy lustre; cilia 3, grey. Queensland: Bunya Mountains in January; two specimens.
 - 17 P. hygrophaes Turn., P.R.S. Vict., 1923, p. 79. (Gympie, Brisbane.) 18 P. adela Turn., ibid., 1923, p. 79. (Macpherson Range, 2,500-3,000 ft.)
 - 19 *P. capnoscia* Turn., *ibid.*, 1923, p. 80. (Macpherson Range, 3,000 ft.) 20 *P. xanthoscia* Turn., *ibid.*, 1923, p. 80. (Cairns.)

21 P. steropodes Meyr., P.L.S.N.S.W., 1897, p. 312. (Toowoomba, Ka-

toomba, Mount Wilson, Warragul, Mount Wellington 2,500 ft.)

22 P. antinoma Meyr., Trans. N.Z. Inst., 1910, p. 72 = cryerodes Turn., P.L.S.N.S.W., 1915, p. 195. (Macpherson Range 2,500-3,000 ft., Ebor. Also from Kermadec Island, Ceylon, and India.)

23 Pachyrhabda argyritis n. sp.

άργυριτις, silvery.

Palpi grey-whitish, inner 8, 12 mm. Head and thorax shining white. surface white. Antennae dark grey. Abdomen grey. Legs dark grey; tarsi, rings on posterior tibiae, and anterior coxae white. Forewings narrow, apex pointed; 7 and 8 stalked; shining silvery-grey; a narrow whitish fascia from onethird costa to one-third dorsum; a transverse whitish fascia from two-thirds costa to tornus, not reaching margins; cilia grey, on apex fuscous. Hindwings onehalf; cilia 5, grcy. North Queensland: Dunk Island, in May; one specimen.

24 Pachyrhabda acroscia n. sp.

άκροσκιος, shaded at the apex.

- &, Q, 8-11 mm. Head and palpi white. Antennae grey. Thorax and abdomen grey-whitish. Legs white; posterior pair with tibiae broadly fuscous at apices. Forewings narrow, apex obtuse; 7 and 8 stalked, whitish-grey; apical area suffusedly fuscous; cilia fuscous, on dorsum and tornus grey. Hindwings one-half; grey; cilia 4, grey. Qucensland: Mount Tamborine in March; Macpherson Range (3,000 ft.) in November; Bunya Mountains (3,500 ft.) in October; three specimens.
 - 25 P. bacterias Meyr., Exot. Micro., i, p. 95. (Cairns, Tweed Hds. Also from Ceylon.)

26 Pachyrhabda liriopis n. sp.

 $\lambda \iota \rho \iota \omega \pi \iota s$, white as a lily.

Head, palpi, antennae, thorax, and abdomen white. Legs 2, 8-9 mm. white; posterior pair with a dark fuscous ring at origin of terminal spurs. Forewings narrow, apex acute; 7 and 8 stalked; shining white; cilia white. wings one-third; pale grey; cilia 8, pale grey. Queensland: Macpherson Range (2.500 ft.) in November; two specimens.

Gen. Isorrhoa

Meyr., Exot. Micro., i, p. 79.

Tongue present. Palpi very long, slender, recurved, diverging. Antennae of male simple towards base, towards apex with segments triangularly dilated and minutely but interruptedly ciliated. Forewings with 7 and 8 out of 6. Hindwings linear-lanceolate; 4 present. Type: I. antimetra Meyr., from India. There have been described four species from Ceylon and India, one from North and one from South Africa.

27 I. atmozona Turn., P.R.S.Q., 1917, p. 85. (Cairns, Cardwell.)

28 I. pandani Turn., P.R.S.Vict., 1923, p. 76. Larvae feeding on Pandanus in oval cases made of two conjoined segments each of the whole thickness of the leaf, leaving oval perforations in the leaves. (Darwin, Palm Island, Magnetic Island.)

I. ancistrota Turn., ibid., 1923, p. 77. (Macpherson Range, 3,000 ft.)

30 I. emplecta Turn., Trans. Roy. Soc. S. Aust., 1926, p. 142.

Mountains, 3,000 ft.)

31 *I aetheria* Meyr., P.L.S.N.S.W., 1897, p. 327, Gen. Insect., pl. i. fig. 4 = hydrographa Meyr., ibid., 1897, p. 327 = implicata Meyr., Exot. Micro., ii, p. 324 = loxoschema Turn., P.R.S. Vict., 1923, p. 97. In this species the markings on the forewings vary much in detail. In 13 examples I have found scarcely any two alike. The black scales on the forewings and cilia are inconstant, frequently absent in the male, more developed in the female. (Cairns, Yeppoon, Gympie, Brisbane, Tweed Hds., Mount Tamborine, Macpherson Range 2,500 ft., Sydney.)

32 I. ochrochyta Turn., Trans. Roy. Soc. S.A., 1926, p. 143. (Bunya Moun-

tains, 3,000 ft.)

I. euzona Turn., ibid., 1926, p. 143. (Macpherson Range, at the foot.)

10 Gen. Aeoloscelis

Meyr., P.L.S.N.S.W., 1897, p. 326.

Tongue present. Palpi very long, slender, recurved, diverging. Antennae of male shortly or minutely ciliated. Forewings with 7 and 8 stalked. Hindwings linear-lanceolate; 4 present. Type, A. hipparcha Meyr. At present known only from Australia.

34 A. chrysophoenicea Meyr., ibid., 1897, p. 328. (Gympie, Brisbane, Stradbroke Island, Tweed Hds., Rosewood.)

35 A. hipparcha Meyr., ibid., 1897, p. 328. (Geraldton.)
36 A. sphragidota Meyr., ibid., 1897, p. 329. (Geraldton, Carnarvon.)

37 A. thiostola Turn., P.R.S.Vict., 1923, p. 77. (Charleville.)

38 Aeoloscelis pachyceros n. sp.

παχνκερως, thick-horned.

3, 9, 12-14 mm. Head pale ochreous or ochreous-grey; face and palpi ochreous-whitish. Antennae grey with obscure fuscous annulations; in male thickened, ciliations one-half. Thorax ochreous-grey. Abdomen grey; in male bases of segments and tuft ochreous-whitish. Legs grey; posterior pair ochreoustinged. Forewings narrow, apex pointed; pale ochreous; costal edge fuscous towards base; markings variable, sometimes some median fuscous irroration, or a fuscous subdorsal median spot; cilia grey, on apex fuscous. Hindwings one-fourth, grey; cilia 8, grey. North Queensland: Palm Island in May, Mackay in October; four specimens.

11 Gen. Sтати морода

Sttn., Brit. Tineina, p. 227; Meyr., P.L.S.N.S.W., 1897, p. 316.

Tongue present. Palpi very long, slender, recurved, diverging. Antennae in male with very long fine ciliations (3-7), sometimes with a short series also. Forewings with 7 and 8 stalked. Hindwings linear-lanceolate; 4 present. Type, S. pedella Lin., from Europe. By far the largest genus in the family, more than 150 species have already been described. It is most abundant in the Indo-Malayan region and in Australia and well represented in New Zealand and oceanic islands, but no continent is without at least one or two representatives. The Australian species known at present number 61.

The larvae vary much in habit. Some feed in galls or fruits; some on scale insects; and one on spider's eggs.

39 S. melanochra Meyr., ibid., 1897, p. 321, Gen. Insect., pl. i, fig. 11. (Brisbane, Toowoomba, Glen Innes, Armidale, Ebor, Gosford, Sydney, Katoomba, Bathurst, Mittagong, Canberra, Adaminaby, Gisborne, Casterton, Melbourne, Launceston, Deloraine, Campbelltown, Hobart, Mount Gambier, Victor Harbour, Adelaide, Mount Lofty.) Larvae feeding on Eriococcus sp. (L. Tonnoir).

40 S. desmotcles Meyr., ibid., 1897, p. 322 (Bathurst).

- 41 S. lethonoa Meyr., ibid., 1897, p. 322 = acromolybda Turn., P.R.S.Vict., 1923, p. 78. (Brisbane, Bunya Mountains, Tabulam, Gosford, Sydney, Melbourne, Hobart.)
- 42 S. chalybeis Meyr., ibid., 1897, p. 322. (Hobart, Port Lincoln, Albany.)
- 43 S. acontias Meyr., ibid., 1897, p. 318. (Fernshaw, Launceston, Deloraine, Strahan, Russell Falls, Hobart.)
- 44 S. chalchotypa Meyr., ibid., 1897, p. 318. Larvae feeding in galls on Acacia decurrens. (Brisbane, Warwick, Sydney, Melbourne, Hobart.)
- 45 S. cyanopla Meyr., ibid., 1897, p. 319. (Mount Kosciusko, Deloraine.)

46 S. sphendonita Meyr., Exot. Micro., ii, p. 461. (Cairns.)

47 S. holobapta Low., Trans. Roy. Soc. S. Aust., 1904, p. 171. (Melbourne.)

$48 \quad \textbf{Stathmopoda castanodes} \ n. \ sp.$

καστανωδης, chestnut-coloured.

&, Q, 12-18 mm. Head with crown reddish-brown, fillet leaden-fuscous, face shining white. Palpi pale brownish; internal surface white. Antennae pale grey, base and apex darker; ciliations in male 7. Thorax brown; tegulae except bases white. Abdomen brown; tuft whitish-ochreous. Legs white; posterior pair brownish, apices of tibiae and last two tarsal segments white, tarsi with fuscous rings. Forewings narrow, broadest near base, diminishing at first rapidly, then gradually to an acute apex; costal edge fuscous to a variable extent; a brown-whitish costal streak throughout; a reddish-brown median streak interrupted in middle, with a rounded basal expansion reaching dorsum and containing a leaden-fuscous spot; a brown-whitish streak along dorsum and termen interrupted beyond tornus by a leaden-fuscous spot; cilia grey, bases ochreous-whitish, on apex wholly fuscous. Hindwings one-fourth, almost linear; cilia 10, grey. North Queensland: Atherton Plateau (Lake Barrine). I bred from an unidentified rainforest fruit 14 examples, of which only one was a male, in August. I also took a female example in June.

49 S. cephalaea Meyr., P.L.S.N.S.W., 1897, p. 319. Bred from galls on Acacia decurrens and another Acacia. (Bunya Mountains, Guyra, Hobart, Mount Wellington 1,500 ft.)

50 Stathmopoda amathodes n. sp.

άμαθωδης, sandy.

- 2, 14 mm. Head and thorax pale ochreous-brown; face and palpi white. Autennae grey with fuscous annulations. (Abdomen missing.) Legs white. Forewings moderate, apex rather obtusely pointed; pale ochreous-brown; an illdefined fuscous dot before midtermen; eilia grey, on apex pale ochreous-brown. Hindwings one-half; grey; cilia 5, grey. West Australia: Merredin in September; one specimen.
 - S. astrapcis Meyr., ibid., 1897, p. 320. (Campbelltown, Tasmania; Adelaide.)

S. mesombra Meyr., ibid., 1897, p. 320. (Hobart.)

53 S. hyposcia Meyr., ibid., 1897, p. 320. (Warwick, Sydney, Mount Wilson, Bathurst, Hobart, Albany.)

54 Stathmopoda notosticha n. sp.

νωτοστιχος, with dorsal lines.

- 9, 13 mm. Head with crown dark fuscous; face shining white. Palpi white. Antennae pale grey. Thorax white. Abdomen whitish; apices of segments fuscous; posterior pair with fuscous rings on apices of tibiae and on tarsi. Forewings narrow; white with slight costal fuscous suffusion; markings dark fuscous; a broad dorsal patch extending from base to one-third; a short median dorsal line almost confluent with it; a short longitudinal line above tornus; cilia grey. Hindwings one-half; grey; cilia 5, grey. New South Wales: Mount Wilson in November; one specimen.
 - S. iodes Meyr., ibid, 1897, p. 323. (Sydney, Fernshaw, Deloraine.)

S. doratias Meyr., ibid., 1897, p. 323. (Albany.) S. sentica Low., ibid., 1899, p. 114. (Broken Hill.)

S. xanthoma Meyr., ibid., 1897, p. 323. (Brisbane, Sydnev.)

S. metopias Meyr., Exot. Miero., ii, p. 324. (Melbourne.)

- S. isoclera Meyr., ibid., 1897, p. 328. (Brisbane, Macpherson Range, 2,500 ft.)
- S. callichrysa Low., Trans., Roy. Soc. S. Aust., 1893, p. 184, Meyr., ibid., 61 1897, p. 325. Bred from Acacia sp. (Brisbane, Stanthorpe, Sydney, Melbourne, Port Lincoln, W.A., York, Northampton.)

S. ischnotis Meyr., ibid., 1897, p. 324. (Carnarvon.)
S. crocophanes Meyr., ibid., 1897, p. 324. One example has been bred from the fruit of the loquat (Photinia japonica). (Townsville, Yeppoon, Duaringa, Gladstone, Gayndah, Noosa, Brisbane, Stradbroke Island, Tweed IIds., Rosewood, Toowoomba, Bunya Mountains, Charleville, Milmerran, Warwick, Killarney, Glen Innes, Newcastle, Sydney, Cooma, St. Helens, Hobart, Adelaide, Hoyleton, Perth, Mogumber, Geraldton.)

64 Stathmopoda ptycholampra n. sp.

 $\pi \tau \nu \chi o \lambda a \mu \pi \rho o s$, with shining fold.

2, 10 mm. Head yellow; faee glossy whitish. Palpi whitish. Antennae grey. Thorax yellow. Abdomen grey. Legs whitish. Forewings rather narrow; yellow, towards apex with some brownish suffusion; costal edge fuscous from base to one-third; a fuscous eostal dot near base; a fine silvery metallic line on fold; eilia grey. Hindwings one-half; grey; cilia 3, grey. Queenland: Noosa in May; one specimen.

65 Stathmopoda marmarosticha n. sp.

μαρμαροστιχος, with shining lines.

&, Q, 14-15 mm. Head ochreous-yellow; face whitish. Palpi ochreous-whitish. Antennae grey; ciliations in male 3 near base only, together with a short series from base to apex. Thorax ochreous in male; ochreous-fuscous in female. Abdomen grey; apices of segments grey-whitish. Legs fuscous; posterior pair ochreous. Forewings moderate, apex obtuse; ochreous-yellow, paler towards apex; costal edge fuscous towards base; markings lustrous silvery; a narrow subcostal line from base to midcosta; a narrow line on fold from base to dorsum; an oval spot on base of dorsum and another at one-fourth; cilia pale ochreous-grey. Hindwings one-half; grey; cilia 4, pale ochreous-grey. North Queensland: Townsville and Bowen in June; five specimens.

66 S. bathrodelta Meyr., Exot. Micro., ii, p. 461. (Cairns.)

67 Stathmopoda citroptila n. sp.

κιτροπτιλος, citron winged.

- 9, 13 mm. Head and palpi whitish-ochreous. Antennae and thorax pale fuscous. Abdomen and legs whitish-ochreous. Forewings rather broad towards base, gradually narrowing towards apex, which is acute, costa moderately arched; very pale yellow; a moderately broad fuscous fascia from costa beyond middle to dorsum before tornus, its edges somewhat suffused; cilia grey. Hindwings one-half; grey; cilia 3, grey. North Queensland: Bowen in June; one specimen.
 - 68 S. trichopeda Low., Trans. Roy. Soc. S. Aust., 1904, p. 171. (Cairns, Townsville.)
 - 69 S. arachnophthora Turn., P.R.S.Q., 1917, p. 86. Larvae feeding in the egg capsules of an unidentified spider. (Eidsvold.)

70 S. basixantha Turn., ibid., 1917, p. 85. (Rosewood.)

71 S. tritophaea Turn., ibid., 1917, p. 86. (Cairns, Brisbane.)

72 S. mimantha Meyr., Exot. Micro., i, p. 92. (Cape York, Cairns, Yeppoon, Bundaberg.)

S. xanthocrana Turn., Trans. Roy. Soc. S. Aust., 1933, p. 179. (Macpher-

son Range, 3,000 ft.)

74 S. trisclena Meyr., P.L.S.N.S.W., 1897, p. 318. (Cairns, Nambour, Caloundra, Brisbane.)

75 Stathmopoda trimochla n. sp.

τριμοχλος, three-barred.

- &, 12 mm. Head white; fillet narrowly fuscous. Palpi white. Antennae grey; ciliations in male 4. Thorax white. Abdomen grey; tuft white. Legs white; posterior pair with pale fuscous rings on apices of tibiae and on tarsi. Forewings narrow, apex acute; white with fuscous markings; an oval subdorsal spot at one-fifth; a moderate somewhat oblique fascia from two-fifths costa to mid-dorsum, expanded on dorsum; an ill-defined fascia from four-fifths costa to tornus; a subapical fascia leaving extreme apex white; cilia grey. Hindwings one-half; grey; cilia 6. grey. Queensland: Brisbane in September; one specimen.
 - 76 S. platynipha Turn., P.R.S.Vict., 1923, p. 78. (Townsville.)

77 S. dictidias Meyr., Exot. Micro., ii, p. 462. (Cairns.)

- 78 S. pantarches Meyr., P.L.S.N.S.W., 1897, p. 321. (Brisbane, Sydney, Melbourne.)
- 79 S. mannophora Turn., Trans. Roy. Soc. S. Aust., 1900, p. 23. (Nambour, Brisbane.)
- 80 S. nitida Meyr., Exot. Micro., i, p. 93. (Darwin.)
- 81 S. grammatopis Meyr., ibid., ii, p. 462. (Cairns.)
- 82 S. rhythmota Meyr., ibid., ii, p. 324. (Brisbane.)

83 Stathmopoda dimochla n. sp.

διμοχλος, twice-barred.

- Q, 9 mm. Head, palpi, antennae, and thorax white. Abdomen pale grey. Legs white; posterior pair with two broad tibial and three narrow tarsal fuscous rings. Forewings narrow, apex pointed; white; markings and some irroration fuscous; a broad submedian fascia, its outer edge angled beneath costa; a second somewhat suffused postmedian fascia not reaching costa, the two separated by a narrow white inwardly oblique line, a median spot above tornus and another at apex; cilia whitish-grey, on apex fuscous. Hindwings one-half; pale grey; cilia 5, whitish-grey. North Queensland: Cairus in August; one specimen.
 - 84 S. canonica Meyr., P.L.S.N.S.W., 1897, p. 326. (Yeppoon, Stradbroke Island, Sydney, Katoomba.)
 - 85 S. megathyma Meyr., ibid., 1897, p. 325. (Brisbane, Stradbroke Island, Mount Tamborine, Tweed Hds., Rosewood, Lismore, Glen Innes, Gosford, Sydney, Wollongong.)

86 S. liporrhoa Meyr., ibid., 1897, p. 326. (Toowoomba, Chinchilla, Newcastle, Sydney, Launceston.)

- 87 S. rubripicta Meyr., Exot. Micro., ii, p. 490. (Cairns, Innisfail, Nambour, Tweed Hds.)
- 88 S. zalodes Meyr., ibid., i, p. 93. (Cairns.)
- 89 S. effossa Meyr., ibid., ii, p. 460. (Adelaide.)
- 90 S. nephocentra Meyr., ibid., ii, p. 461. (Broken Hill, Adelaide.)
- 91 S. aphanosema Turn., P.R.S. Vict., 1923, p. 78. (Stanthorpe.)
- 92 S. trifida Meyr., ibid., ii, p. 462. (Cairns.)
- 93 S. pampolia Turn., ibid., 1923, p. 79. (Tweed Hds.)
- 94 S. ceramoptila Turn., ibid., 1923, p. 79. (Cairns.)

95 Stathmopoda zophoptila n. sp.

ζοφοπτιλος, dark-winged.

3.10 mm. Head with crown fuscous, fillet and face shining whitish; fillet prominent. Palpi whitish. Antennae whitish; ciliations in male 8; there is also a series of shirt ciliations. Thorax and abdomen fuscous. Legs whitish; posterior pair with dark fuscous rings on apices of tibiae and on tarsi. Forewings moderate, apex rather obtusely pointed; fuscous; a darker fuscous spot on costa at one-third and another above tornus; small areas of whitish-ochreous irroration on costa at middle and three-fourths; a small whitish-ochreous crescent at apex; cilia fuscous. Hindwings one-third; fuscous; cilia 6, fuscous. Queensland: Bundaberg in September; one specimen.

96 Stathmopoda recondita n. sp.

reconditus, concealed, obscure.

&, Q, 12-16 mm. Head glossy ochreous-grey-whitish; in female fuscons. Palpi ochreous-grey-whitish or grey. Antennae grey or grey-whitish; ciliations in male 5 towards base, but with a continuous series of shorter ciliations. Thorax ochreous-grey; in female fuscous. Abdomen grey; in female fuscous; tuft in male whitish-ochreous. Legs ochreous-grey or grey; anterior pair fuscous. Forewings broadest near base, gradually narrowing to an acute apex; grey-whitish or ochreous-grey-whitish with usually a variable degree of fuscous irroration; this may form inconstant basal, tornal, and subapical spots; cilia grey, on apex fuscous. Hindwings one-half; grey; cilia 4, grey. Tasmania: Burnie in December and January; Hobart, Strahan and Deloraine in February; six specimens.

97 Stathmopoda rhodocosma n. sp.

ροδοκοσμος, with rosy ornament.

9,13 mm. Head, palpi, and antennae white. Thorax white, in centre densely sprinkled with crimson. Abdomen and legs white. Forcings narrow, broadest at base, gradually attenuated to an acute apex; white; a few crimson scales close to base; termen from tornus to apex edged with crimson; cilia white. Hindwings one-half; whitish-grey; cilia 4, whitish. North Queensland: Dunk Island in May; one specimen.

98 Stathmopoda nympheuteria n. sp.

νυμφευτηριος, bridal.

8, 13 mm. Head, palpi, antennae, and thorax white. Abdomen grey; tuft whitish. Lcgs white; posterior pair with fuscous rings on apices of tibiae and on tarsi. Forewings moderate; shining white; cilia grey. Hindwings two-thirds; grey; cilia 3 and a half, grey. Tasmania: Mount Wellington (1,500 ft.) in January; one specimen.

12 Gen. Trychnopepla nov.

τρυκνοπεπλος, rough-coated.

Head smooth; face retreating. Tongue present. Palpi moderately long, diverging, thickened with loosely appressed scales, slightly rough anteriorly; terminal segment shorter than second, equally stout, obtusely pointed. Antennae with basal segment clongate. Posterior tibiac with long hairs on dorsum; tarsi with whorls of short scales on apices of segments. Forewings with tufts of raised scales, of even width with rounded apex; 7 and 8 separate; 11 from before middle. Hindwings almost linear. The palpi and shape of forewings are distinctive.

99 Trychnopepla discors n. sp.

discors, unlike.

Q, 10 mm. Head white. Palpi whitish-hrown with two fuscous bars on terminal segment, inner surface white. Antennae whitish-brown with dark fuscous annulations. Thorax pale ochreous-brown sprinkled with dark fuscous. (Abdomen missing.) Legs whitish; tarsi with dark fuscous rings. Forewings with costa straight to near apex; pale ochreous-brown unevenly suffused with pale crimson; markings and some irroration dark fuscous; a slender median line from one-third to two-thirds; a subdorsal tuft of raised scales at one-fourth; a transverse ridge of raised dark fuscous scales in disc at three-fourths; a spot between this and apex; a slender terminal line; cilia pale ochreous, on costa fuscous, on dorsum grey. Hindwings one-fifth; grey; cilia 6, grey. North Queensland: Kuranda; one specimen received from F. P. Dodd.

13 Gen. Aenicteria

Turn., Trans. Roy. Soc. S. Aust., 1926, p. 143.

Tongue absent. Palpi moderately long, smooth, recurved, ascending; second segment slightly thickened. Antennae in male very minutely ciliated. Posterior tibiae with dense long hairs on dorsum and with a terminal whorl of short scales; tarsi with whorls of very short scales. Forewings with rounded apex. Hindwings lanceolate; 2 and 3 connate, 4 absent. Monotypic.

100 A. termiticola Turn., ibid., 1926, p. 143. Probably associated with termites. (Cairns.)

14 Gcn. Lissocarena

Turn., P.R.S.Vict., 1923, p. 80.

Palpi long, smooth, recurved, diverging; terminal segment broadly dilated but laterally compressed. Antennae nearly 1; in male simple. Posterior tibiae and first tarsal segment clothed with short bristly hairs, whorls of short scales on apices

of tibiae and first three tarsal segments. Forewings with 7 and 8 stalked. Hind-wings lanceolate; 4 absent. Monotypic.

101 L. semicuprea Turn., ibid., 1923, p. 81. (Cairns.)

15 Gen. HELIODINIDES

Sttn., Brit. Tin., p. 243; Meyr., Trans. Roy. Soc. S. Aust., 1906, p. 54.

Tongue present. Palpi short, filiform, porrect or drooping. Antennae in male thickened, simple. Posterior tibiae smooth with whorls of short bristles at apices; tarsi with short bristles at apices of segments. Forewings with 7 absent, 6 and 8 sometimes stalked. Hindwings lanceolate; 4 absent. Type, H. roesella Lin., from Europe. There are also nine species recorded from North America and four from the West Indies.

102 II. princeps Meyr., ibid., 1906, p. 54. (Cairns, Brisbane.)

16 Gen. Agiton

Turn., ibid., 1926, p. 145.

Tongue present. Palpi moderately long, recurved, ascending, divergent; second segment thickened towards apex with loosely appressed scales; terminal segment stout, rather obtuse. Antennae short (less than one-half); in male thickened and minutely ciliated. Posterior tibiae hairy on dorsum, with a terminal whorl of bristles; tarsi with whorls of short bristles on apices of segments. Forewings elongate-triangular; 7 absent (coincident with 8). Hindwings spathulate-lanceolate; 2 and 3 stalked, 4 absent, 6 absent. Monotypic. A curious and isolated genus.

103 A. idioptila Turn., ibid., 1926, p. 145. (Macpherson Range, 2,500-3,000 ft.)

17 Gen. Pseudaegeria

Wals., Tr. E. S., 1889, p. 17; Meyr., P.L.S.N.S.W., 1907, p. 133.

Tongue present. Palpi long, smooth, recurved, ascending; second segment thickened with appressed scales. Antennae with dorsal ridge of scales; in male ciliated. Abdomen with terminal tuft of laterally projecting scales. Posterior tibiae with dense whorls of long scales at apices; tarsi with spines at apices of segments. Forewings with 7 and 8 stalked. Hindwings narrowly elongate-ovate; 3 and 4 connate or stalked, 6 and 7 connate or stalked. Type, P1 squamicornis Feld. The genus appears to be confined to Australia.

104 Pseudaegeria phlogina n. sp.

φλογινος, fiery.

δ, Q, 23-28 mm. Head brilliant red; eyes white-edged beneath. Palpi moderately long, recurved, ascending, second segment moderately thickened, rough anteriorly; terminal segment ½, slender, acute; black, apex and anterior margin of second segment white. Antennae about 4/5, with a ridge of dense scales on dorsum from ¾ to near apex, ciliations in male (2/β); black, apex of dorsal ridge white. Thorax black, posterior and sometimes anterior margin red. Abdomen expanded towards apex with projecting lateral scales; bright red, transversely barred with black on two basal and three terminal segments. Legs black; middle and posterior tibiae with median part red, spurs white; posterior tarsi much longer than tibiae. Forewings elongate, narrow, posteriorly dilated so as to be somewhat spathulate, costa simuate, apex rounded, termen and dorsum not differentiated; black with red markings; a narrow line on costa from base almost to apex; a similar line on dorsum from 1/5 to tornus; these are connected by an inwardly curved transverse line shortly before middle; a spot in disc at 2/3 beneath or touching costal line; cilia purple, bases narrowly white. Hindwings narrow;

6 and 7 short-stalked or approximated; basal area in male scaleless and transparent in costal half, bright red in dorsal half in male, orange in female; apical arca black; cilia as forewings.

The larvae of this remarkable species feed on the bark of the woody stems of a climber locally known as "Supplejack," making small tunnels in its nodes and spinning a covering of silk and sawdust as is done by some Xyloryctidae. Mr. 11. Francis has identified the food plant as Ventilago viminalis (Rhamneae). Queensland: Injune in March; four specimens received from W. B. Barnard. Type in Queensland Museum.

105 P. squamicornis Feld., pl. cxxxix, fig. 6; Mcyr., P.L.S.N.S.W., 1907, p. 134, Gen. Insect., pl. i, fig. 15. (Sydney.)

106 P. polytita Turn., ibid., 1913, p. 221. (Townsville.) 107 P. hyalina Turn., ibid., 1913, p. 222. (Birchip.)

18 Gen. Snellenia

Wals., Tr. E. S., 1889, p. 13; Meyr., P.L.S.N.S.W., 1907, p. 132.

Tongue present. Palpi extremely long, slender, recurved, ascending, slightly rough anteriorly. Antennae with a dorsal ridge of rough scales; in male ciliated. Abdomen margined with rough scales; in male with a large posterior tuft. Posterior tibiac smooth with whorls of large scales on origin of spurs; tarsi with short spines on apices of segments. Forcings with 7 and 8 stalked. Hindwings very narrowly elongate-ovate; 3 and 4 connate, 6 and 7 separate, parallel. Type, S. coccinea Wals., from India. Besides the Australian there are two Indian and one South American species.

108 S. lineata Wlk., viii, p. 261; Meyr., P.L.S.N.S.W., 1907, p. 132, Gen. Insect., pl. ii, fig. 16 = sesioides Feld., pl. cxl, fig. 22. (Nambour, Brisbane, Tweed Hds., Tabulam, Sydney, Gisborne.)

109 S. hylaea Turn., ibid., 1913, p. 221. (Mount Tamborine, Macpherson

Range 2,500-3,500 ft.)

110 S. miltocrossa Turn., P.R.S.Vict., 1923, p. 81. (Bulli.)

111 S. capnora Turn., P.L.S.N.S.W., 1913, p. 221. (Herberton.)

19 Gen. Dolophrosyne

Drnt., Novit. Zool., 1919, p. 120.

Tongue present. Palpi moderate, recurved, ascending; second segment thickened and somewhat rough anteriorly; terminal segment short. Antennae in male thickened and slightly laminate with fascicles of cilia. Posterior tibiae with dense scale-tufts at origin of spurs; tarsi with whorls of short scales at apices of segments. Forewings narrow; 7 and 8 stalked. Hindwings narrowly elongate-ovate; 3 and 4 connate or stalked, 5 remote, 6 and 7 stalked. Monotypic.

112 D. baltcata Drnt., ibid., 1919, p. 121. (Yeppoon, Duaringa.)

20 Gen. Eretmocera

Zel., Micr. Caffr., p. 96; Meyr., P.L.S.N.S.W., 1897, p. 420.

Tongue strongly developed. Palpi rather short, curved, ascending; second segment somewhat thickened and rough anteriorly. Antennae with some long loosc scales on dorsum; in male simple or very minutely ciliated. Abdomen broad, flattened, with laterally projecting scales. Posterior tibiae smooth with whorls of short scales at apices; tarsi with short spines at apices of segments. Forewings narrow; 7 absent, 6 and 8 stalked. Hindwings lanceolate. Type, E. fuscipennis Zel., from Africa. Most numerous in species from Africa, from which 13 species have been described, together with three from China and India, one from Europe, and four from the Archipelago.

113 E. chrysias Meyr., P.L.S.N.S.W., 1896, p. 1,047, ibid., 1897, p. 421. (Palm Island, Townsville, Duaringa, Maryborough, N.W.A., Noonkambah.)

114 E. cyanauges Turn., ibid., 1913, p. 220. (Townsville.)

115 E. dioctis Meyr., ibid., 1897, p. 370 = flavicincta Turn., ibid., 1913, p. 219. (Banana, Brisbane, Rosewood, Toowoomba, Dalby, Bunya Mountains, Injune, Milmerran, Warwick, Killarney, Geraldton (W.A.)

116 E. coracopis Turn., P.R.S.Tas., 1926, p. 155. (Cradle Mount, 2,000 ft.)

21 Gen. MOLYBDURGA

Meyr., P.L.S.N.S.W., 1897, p. 369.

Tongue present. Palpi moderately long, curved, ascending; second segment thickened with appressed scales. Posterior tibiae rough-haired; tarsi with short bristles at apices of segments. Forewings with 4 absent, 6 and 7 stalked. Hindwings lanceolate; 2 to 7 separate, nearly parallel. Monotypic.

117 M. metallophora Meyr., ibid., 1897, p. 369, Gen. Insect., pl. ii, fig. 20.

(Melbourne.)

22 Gen Coracistis

Meyr., ibid., 1897, p. 370.

Tongue present. Palpi very long, recurved, ascending; second segment rough-scaled anteriorly towards apex. Antennae over 1; in male simple; in female with tuft of scales on mid-dorsum. Posterior tibiae long-haired on dorsum with slight whorls on origin of spurs; tarsi with short bristles on apices of segments. Forewings with tufts of raised scales; 7 and 8 out of 6. Hindwings lanceolate; 4 present, 6 and 7 parallel. Monotypic.

118 C. erythrocosma Meyr., ibid., 1897, p. 370. Gen. Insect., pl. ii, fig. 26. (Melbourne, Gisborne.) Mr. Geo. Lyell, who has captured a specimen,

says that it simulated a wasp both in appearance and poise.

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ERRATUM

By an unfortunate accident one of the best known species of *Gracilaria* was omitted from my revision of the Gracilariidae in these Transactions published last year.

169A G. xanthopharella Meyr., P.L.S.N.S.W., 1881, p. 141. N. Qld.: Atherton Tableland. Qld.: Brisbane, Mount Tamborine, Tweed Ilds., Toowoomba. N.S.W.: Lismore, Sydney.

In the same paper the food plants of Lithocolletis aglaozona Meyr, were by an error of copying transferred to L. stephanota Meyr.

Phyllocnistis enchalcoa (Proc. Roy. Soc. Tas., 1938, p. 100) is a misprint for P. enchalca. This is plainly indicated by the derivation given from εγχαλκος, brassy.